

SECTION II—CLAIMS

55. (Currently Amended) A method comprising:

providing a resonator beam having a first end and a second end, the resonator beam suspended above a substrate by the first end and the second end;

providing a lever arm, the lever arm being connected to a pivot and to the first end of the resonator beam; and

using an actuator to apply an actuation force to the lever arm to apply strain onto the resonator beam, wherein the positions on the lever arm where the first end of the resonator beam is connected and where the actuation force is applied are on the same side of the pivot.

56. (Previously Presented) The method of claim 55 wherein the actuator is a comb structure.

57. (Previously Presented) The method of claim 55 wherein the actuator is a ratchet wheel.

58. (Previously Presented) The method of claim 55 wherein the actuator is a ratchet wedge.

59. (Previously Presented) The method of claim 55 wherein the actuator is a large coefficient of thermal expansion heater.

60. (Previously Presented) The method of claim 55 wherein the actuator is a ratcheting shaft.

61. (Previously Presented) The method of claim 55 wherein the actuator is an expansion bar that provides the actuation force proportional to a temperature.

62. (Canceled)

63. (Canceled)

64. (Previously Presented) The method of claim 55 wherein the actuation force supplied by the actuator is proportional to a temperature.

65. (Previously Presented) The method of claim 64 wherein a tensile strain is applied to the resonator beam as the temperature increases.

66. (Previously Presented) The method of claim 64 wherein a compressive strain is applied to the resonator beam as the temperature increases.

67. (Previously Presented) The method of claim 56 wherein the comb structure exerts force on a curved beam that in turn transmits force onto the lever arm.
68. (Previously Presented) The method of claim 55 further comprising connecting the second end of the resonator beam to a second lever arm and using the second lever arm in concert with the first lever arm to apply a strain to the resonator beam.
69. (Previously Presented) The method of claim 68 wherein the actuator applies the actuation force to both the lever arm and the second lever arm.
70. (Previously Presented) The method of claim 68 wherein the lever arm and the second lever arm rotate about the pivot to proportionally modify the amount of strain applied to the resonator beam.
71. (Previously Presented) A method comprising:
- providing a resonator beam having a first end and a second end, the resonator beam suspended above a substrate by the first end and the second end;
 - applying an actuation force to at least one of the first end and the second end, the actuation force creating a temperature-dependent compressive strain in the resonator beam.
72. (Previously Presented) The method of claim 71 wherein the actuation force is proportional to a temperature.
73. (Previously Presented) The method of claim 71 wherein applying the actuation force comprises using an actuator, wherein the actuator is a large coefficient of thermal expansion heater.
74. (Previously Presented) The method of claim 71 wherein applying the actuation force comprises using an actuator, wherein the actuator is an expansion bar that provides the actuation force proportional to a temperature.
75. (Previously Presented) The method of claim 71 wherein a compressive strain is applied to the resonator beam as the temperature increases.
76. (New) A method comprising:

providing a resonator beam having a first end and a second end, the resonator beam suspended above a substrate by the first end and the second end;

providing a lever arm, the lever arm being connected to a pivot and to the first end of the resonator beam; and

using an actuator to apply an actuation force to the lever arm to apply strain onto the resonator beam, wherein the positions on the lever arm where the first end of the resonator beam is connected and where the actuation force is applied are on opposite sides of the pivot.

- 77. (New) The method of claim 76 wherein the actuator is a comb structure.
- 78. (New) The method of claim 76 wherein the actuator is a ratchet wheel.
- 79. (New) The method of claim 76 wherein the actuator is a ratchet wedge.
- 80. (New) The method of claim 76 wherein the actuator is a large coefficient of thermal expansion heater.
- 81. (New) The method of claim 76 wherein the actuator is a ratcheting shaft.
- 82. (New) The method of claim 76 wherein the actuator is an expansion bar that provides the actuation force proportional to a temperature.
- 83. (New) The method of claim 76 wherein the actuation force supplied by the actuator is proportional to a temperature.
- 84. (New) The method of claim 76 wherein a tensile strain is applied to the resonator beam as the temperature increases.
- 85. (New) The method of claim 76 wherein a compressive strain is applied to the resonator beam as the temperature increases.
- 86. (New) The method of claim 77 wherein the comb structure exerts force on a curved beam that in turn transmits force onto the lever arm.
- 87. (New) The method of claim 76 further comprising connecting the second end of the resonator beam to a second lever arm and using the second lever arm in concert with the first lever arm to apply a strain to the resonator beam.

88. (New) The method of claim 87 wherein the actuator applies the actuation force to both the lever arm and the second lever arm.
89. (New) The method of claim 87 wherein the lever arm and the second lever arm rotate about the pivot to proportionally modify the amount of strain applied to the resonator beam.